Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date:

**Chromatography of Markers Lab**

**Background:** Chromatography is the process in which a homogenous mixture can be separated out. For example, you can separate out all of the colors used to produce a black ink pen!

**Objectives:**

To separate pigments found in markers.

To determine the primary colors of pigments.

To calculate the Rf value of primary colors.

**Materials:**

Filter paper

Water

Beaker

Markers (3 per group)

Pencil

Ruler

Calculator

**Procedure:**

1. Cut round filter paper in half. Cut off one end to make a flat edge. (will look like a sailboat sail)
2. Measure 3cm from the bottom and draw a line across the width in pencil.
3. Choose 4 different colored markers
4. On the starting line, dab one color at a time, about 10 times each. The 3 colors should not touch. You will have 4 dots on the starting line.
5. In a beaker, add a small amount of water about 1 - 2 mL. The water should not touch the pigments!!!
6. Place paper in beaker flat edge down and let sit 10 - 15 minutes.
7. Take out paper and, with your pencil, follow the water line across to mark the boundary between wet and dry. This is your finish line.
8. With your pencil, circle each pigment and label. (i.e. b for blue)
9. Measure each of the 4 colors in cm from the starting line to where the pigment ended. Record in Table 1.

**Results**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Marker Color | Sequence of colors starting from bottom line | Distance of pigment (cm) | Distance water traveled (cm) | Rf value= Pigment/Water |
|  |  |  |  |  |
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**Analysis/Results:**

1. Which color had the highest Rf value?
2. Rank the colors from highest to lowest.
3. Compare your results with the class. What were their Rf values? Do you notice any trends? Explain.

**Conclusion:**

2-3 sentences on what you learned